



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,049	04/15/2004	Kiyoshi Nishikawa		7408

7590 10/03/2006

Patrick G. Burns, Esq.
GREER, BURNS & CRAIN, LTD
Suite 2500
300 South Wacker Dr.
Chicago, IL 60606

EXAMINER

RENNER, CRAIG A

ART UNIT	PAPER NUMBER
----------	--------------

2627

DATE MAILED: 10/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/825,049

Applicant(s)

NISHIKAWA ET AL.

Examiner

Craig A. Renner

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) 9 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>15 April 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of "Group I (Claims 1-8)" in the reply filed on 26 September 2006 is acknowledged. Accordingly, claim 9 is withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to one or more non-elected inventions/species, there being no allowable generic or linking claim.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

3. The drawings are objected to because of the following informality:

In FIG. 17, reference sign "65" should be changed to --66-- in order to be consistent with the remainder of the disclosure.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement

sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-2 and 6-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Sasaki (US 6,191,916).

Sasaki (US 6,191,916) teaches a thin film magnetic head (FIG. 36A, for instance) comprising a magnetic pole major layer (85) terminated at a position receding from a medium-opposed surface (as shown in FIG. 36A, for instance); an intermediate magnetic layer (79) extending forward toward the medium-opposed surface from a surface of the magnetic pole major layer (as shown in FIG. 36A, for instance), the intermediate magnetic layer terminated at a position receding from the medium-opposed surface (as shown in FIG. 36A, for instance); and a tip magnetic layer (72) extending to the medium-opposed surface from a surface of the intermediate magnetic layer (as shown in FIG. 36A, for instance), the tip magnetic layer getting exposed at the medium-opposed surface (as shown in FIG. 36A, for instance) [as per claim 1]; wherein a front end of the intermediate magnetic layer is positioned closer to the medium-opposed surface than a front end of the magnetic pole major layer is (as shown in FIG. 36A, for instance) [as per claim 2]; wherein a flat surface is defined on a surface of the magnetic pole major layer so as to receive the intermediate magnetic layer (as shown in FIG. 36A, for instance) [as per claim 6]; wherein a flat surface is defined on a surface of the intermediate magnetic layer so as to receive the tip magnetic layer (as shown in FIG. 36A, for instance) [as per claim 7]; and wherein the intermediate magnetic layer defines an inclined surface expanding outward from an outer periphery of the tip

magnetic layer (as shown in FIG. 36A, for instance), a foot of the inclined surface being received on the magnetic pole major layer (as shown in FIG. 36A, for instance) [as per claim 8].

8. Claims 1-4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamijima et al. (US 6,483,664).

Kamijima et al. (US 6,483,664) teaches a thin film magnetic head (FIG. 12A, for instance) comprising a magnetic pole major layer (21) terminated at a position receding from a medium-opposed surface (as shown in FIG. 12A, for instance); an intermediate magnetic layer (11) extending forward toward the medium-opposed surface from a surface of the magnetic pole major layer (as shown in FIG. 12A, for instance), the intermediate magnetic layer terminated at a position receding from the medium-opposed surface (as shown in FIG. 12A, for instance); and a tip magnetic layer (12) extending to the medium-opposed surface from a surface of the intermediate magnetic layer (as shown in FIG. 12A, for instance), the tip magnetic layer getting exposed at the medium-opposed surface (as shown in FIG. 12A, for instance) [as per claim 1]; wherein a front end of the intermediate magnetic layer is positioned closer to the medium-opposed surface than a front end of the magnetic pole major layer is (as shown in FIG. 12A, for instance) [as per claim 2]; wherein a primary magnetic pole tip region is defined in the tip magnetic layer (as shown in FIG. 13, for instance), the primary magnetic pole tip region extending rearward from the medium-opposed surface, keeping a constant lateral width (as shown in FIG. 13, for instance) [as per claim 3]; wherein a front end of

the intermediate magnetic layer is positioned closer to the medium-opposed surface than a rear end of the primary magnetic pole tip region is (as shown in FIG. 13, for instance) [as per claim 4]; and wherein a flat surface is defined on a surface of the magnetic pole major layer so as to receive the intermediate magnetic layer (as shown in FIG. 12A, for instance) [as per claim 6].

9. Claims 1-2 and 6-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Han et al. (US 6,504,677).

Han et al. (US 6,504,677) teaches a thin film magnetic head (FIG. 2, for instance) comprising a magnetic pole major layer (48) terminated at a position (15) receding from a medium-opposed surface (30); an intermediate magnetic layer (46) extending forward toward the medium-opposed surface from a surface of the magnetic pole major layer (as shown in FIG. 2, for instance), the intermediate magnetic layer terminated at a position (14) receding from the medium-opposed surface (as shown in FIG. 2, for instance); and a tip magnetic layer (44) extending to the medium-opposed surface from a surface of the intermediate magnetic layer (as shown in FIG. 2, for instance), the tip magnetic layer getting exposed at the medium-opposed surface (as shown in FIG. 2, for instance) [as per claim 1]; wherein a front end of the intermediate magnetic layer is positioned closer to the medium-opposed surface than a front end of the magnetic pole major layer is (as shown in FIG. 2, for instance) [as per claim 2]; wherein a flat surface is defined on a surface of the magnetic pole major layer so as to receive the intermediate magnetic layer (as shown in FIG. 2, for instance) [as per claim 6]; and

wherein a flat surface is defined on a surface of the intermediate magnetic layer so as to receive the tip magnetic layer (as shown in FIG. 2, for instance) [as per claim 7].

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kamijima et al. (US 6,483,664).

Kamijima et al. (US 6,483,664) teaches the thin film magnetic head as detailed in paragraph 8, supra, further wherein the primary magnetic pole tip region has a front end surface exposed at the medium-opposed surface (as shown in FIG. 12A, for instance). Kamijima et al. (US 6,483,664), however, remains silent as to "a leading edge of the front end surface being reduced in lateral width than a trailing edge of the front end surface."

Official notice is taken of the fact that it is notoriously old and well known in the thin film magnetic head art to have a leading edge of a front end surface be reduced in lateral width than a trailing edge of the front end surface in the same field of endeavor for the purpose of improving recording. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had a leading edge of the front end surface of Kamijima et al. (US 6,483,664) be reduced in lateral width than a trailing edge of the front end surface. The rationale is as follows:

One of ordinary skill in the art would have been motivated to have had a leading edge of the front end surface of Kamijima et al. (US 6,483,664) be reduced in lateral width than a trailing edge of the front end surface since such improves recording.

Pertinent Prior Art

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Sasaki (US 6,204,997), Sasaki (US 6,490,127), Stoev et al. (US 6,724,572), Sasaki et al. (US 2002/0024766), Sasaki (US 2002/0036864), and Kuroda et al. (US 2003/0021063), which each individually teaches a thin film magnetic head comprising a magnetic pole major layer terminated at a position receding from a medium-opposed surface; an intermediate magnetic layer extending forward toward the medium-opposed surface from a surface of the magnetic pole major layer, the intermediate magnetic layer terminated at a position receding from the medium-opposed surface; and a tip magnetic layer extending to the medium-

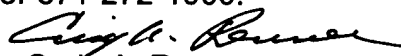
opposed surface from a surface of the intermediate magnetic layer, the tip magnetic layer getting exposed at the medium-opposed surface.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Monday-Tuesday & Thursday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Craig A. Renner
Primary Examiner
Art Unit 2627

CAR